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ANNUAL REPORT

GRADUATE COLLEGE, UNIVERSITY OF ILLINOIS

Urbana and Chicago, Illinois

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1962-1963

ANNUAL REPORT

GRADUATE COLLEGE, UNIVERSITY OF ILLINOIS

Urbana and Chicago, Illinois

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TABLE OF CONTENTS

Page

I. THE ADMINISTRATION OF GRADUATE EDUCATION 1-3
  A. Introduction, 1
  B. Enrollment, 1
  C. Degrees Conferred, 1
  D. Courses, Curricula, and Graduate Faculty, 2
  E. Institutional Cooperation, 2

II. APPOINTMENTS AND AWARDS FOR GRADUATE STUDENTS 3-8
  A. General, 3
  B. University Fellowships, 4
  C. Fellowships Supported by Outside Agencies, 6
  D. Ruling on Income Tax for Research Assistants, 7
  E. Graduate Student Appointment Office, 8
  F. Fellowship Subventions to Departments, 8

III. SUPPORT OF RESEARCH 8-19
  A. The Center for Advanced Study, 8
  B. Faculty Summer Fellowships, 10
  C. University Research Board, 10
  D. University Patent Committee, 14
  E. Institutional Grants, 14
  F. Associated Research and Service Enterprises, 15
  G. Support of Scholarly Publications, 17

IV. CHICAGO UNDERGRADUATE DIVISION LIAISON COMMITTEE 19

V. CHICAGO MEDICAL CENTER DIVISION OF THE GRADUATE COLLEGE 19-23
  A. Introduction, 19
  B. Administration, 20
  C. Promotion and Assistance of Research, 23

TABLES 24-60

LIST OF TABLES

Table		Page
1	Annual Enrollment	24
2	Enrollment by Departments	25
3	Degrees Conferred	30
4	Fellows in Residence	36
5	Applications for Financial Aid	37
6	Fellowships Awarded	38
7	Rates of Acceptance for University Fellowships	40
8	NSF Cooperative Fellowships Awarded to Students at Thirteen Universities	41
9	NSF Summer Fellowships for Teaching Assistants Awarded to Students at Thirteen Universities	42
10	Graduate Schools Selected by NSF Predoctoral Fellows	43
11	Graduate Schools Selected by Woodrow Wilson Fellows	44
12	Fellowship Subvention Grants to Departments	45
13	Faculty Summer Fellows	47
14	University Research Board Appropriations	48
15	Applications for Research Grants and Contracts Sent to Agencies outside the University	54
16	Institutional Grant Funds	56
17	University Press Publications	57
18	Enrollment and Degrees Conferred, Chicago Medical Center	59
19	Appropriations by Chicago Medical Center Subcommittee of the University Research Board	60

Executive Committee of the Graduate College, 1962-63

Frederick Theodore Wall, Chairman; Dean of the Graduate College, Research Professor of Physical Chemistry, and Chairman of the University Research Board

Norton Moore Bedford, Professor of Accountancy

Joseph Bartholomew Casagrande, Professor of Anthropology and Head of the Department of Anthropology

Lee Joseph Cronbach, Professor of Education in the Bureau of Educational Research and Professor of Psychology

David Yarrow Curtin, Professor of Organic Chemistry

Deno John Geanakoplos, Professor of History

W. Scott Goldthwaite, Professor of Music

J. David Jackson, Professor of Physics

John Raphael Laughnan, Professor of Plant Genetics and of Botany

Willard Omer Nelson, Professor of Bacteriology in the Department of Dairy Science and Senior Staff Member in the Center for Zoonoses Research

Milan Vaclav Novak, Professor of Microbiology, Head of the Department of Microbiology, and Associate Dean of the Graduate College for the Medical Center

Theodore Bernard Peterson, Professor of Journalism and Dean of the College of Journalism and Communications

Robert Wentworth Rogers, Professor of English and Head of the Department of English

O. Burr Ross, Professor of Animal Science and Head of the Department of Animal Science

Eugene Francis Scoles, Professor of Law

Nelson Wax, Professor of Electrical Engineering and Research Professor in the Coordinated Science Laboratory

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I. The Administration of Graduate Education

A. Introduction

The chief concern of the Graduate College is with the quality of its educational and research programs. To provide high quality instruction at the graduate level and to maintain a distinguished standard of research achievement, the College must be ever mindful of numerous problems, both old and new, that arise in connection with its activities. While attempting on the one hand to attract able students to carry on advanced study and research, the Graduate College must also be constantly perfecting plans and developing procedures to assure the best and most efficient utilization of its faculty.

The Graduate College has taken a number of actions during 1962-63 directed toward strengthening its work. The most significant actions relating to quality are described in sections II and III which cover matters beyond the administration of study programs. In this first section we shall offer enrollment and degree statistics and describe changes in offerings and procedures, as well as efforts at institutional cooperation on both the regional and national levels. Graduate College activities of the Chicago Divisions are described in sections IV and V.

B. Enrollment

This area of concern is clearly recognized in the light of steadily expanding enrollments. Registrations in the Graduate College are nearly 70 per cent larger than they were ten years ago and almost ten per cent greater than last year. See Table 1.

During 1962-63, the total number of persons enrolled in the Graduate College each session was as follows: 1962 Summer Session, 4,750; Semester I, 5,502; Semester II, 5,451. The enrollment of students by departments for the years 1960-61 through 1962-63 is shown in Table 2. The table shows that during 1962-63 some 8,513 individuals were enrolled in graduate study at the University.

C. Degrees Conferred

In 1962-63 the Graduate College conferred 2,160 advanced degrees. A summary comparison of these degrees with those awarded during 1959-60 is given below.

	1962-63	1959-60
Ph.D.	396	346
Other doctoral degrees	37	26
A.M. and M.S.	1,224	1,001
Other master's degrees	463	338
Advanced Certificates	40	24
Total	2,160	1,735

A complete listing of the degrees conferred for the years 1960-61 through 1962-63 in the more than 100 fields of study offered by the Graduate College will be found in Table 3.

D. Courses, Curricula, and Graduate Faculty

Since September, 1962, 112 course proposals were evaluated by the Subcommittee on Courses and Curricula. Of these, 70 were new and 42 were revisions of existing courses. Sixty-six of the new courses and 37 of the proposed revisions were submitted to the Executive Committee with favorable recommendations and were approved. During this same period, 60 courses in the 300 and 400 series were dropped.

A new program leading to the Doctor of Philosophy in Agricultural Engineering and a new interdisciplinary degree program leading to the Doctor of Philosophy in Biology were approved. A new option in "Family and Consumption Economics" was approved for the master's degree in home economics, and master of science programs in forestry and biophysics were added. A doctoral program in biophysics had been approved in 1957 but no provision was made then for the master of science degree.

The Subcommittee on Graduate Faculty received 67 nominations for full standing and 80 for master's standing on the graduate faculty. Of these, 46 were approved by the Executive Committee for full standing and 71 for master's standing.

E. Institutional Cooperation

1. Traveling Scholar Program. The University of Illinois is an active member of the Committee on Institutional Cooperation which is composed of 11 Midwestern universities. A "traveling scholar" program recently announced by the CIC will make it possible for an individual enrolled in one of the CIC universities to have the advantage, on a short-term basis, of special facilities available at another. This might take the form of a special laboratory, a library collection, or a faculty member highly qualified in a particular area.

At the present time no detailed procedures have been established for handling these cases, but it is assumed that each decision will be made individually upon the submission of a petiton accompanied by the strong endorsement of the student's major department. An Inter-University Graduate Training Program in Bioclimatology, recently approved by the Executive Committee and under the direction of Professor Frederick Sargent II, is the only specific program under CIC auspices which has been brought to the attention of the Graduate College.

2. Standardized Foreign Language Examinations. The Graduate College, in cooperation with other members of the Association of Graduate Schools, is participating in the development of standardized foreign language examinations. The tests in French, German, and Russian are being prepared by the Educational Testing Service under a U. S. Office of Education contract and were administered on an experimental basis to students in the advanced graduate foreign language courses this spring. The aim of this program is to provide a continuing, nationally available, graduate foreign language reading proficiency test--with provisions for security and renewal--which will be regularly available on an institutional basis beginning in the fall of 1964.

3. Graduate Record Examination. The Subcommittee on Graduate Admissions and Examinations has been studying the utility of the Graduate Record Examination presently required of all new students in the Graduate College. The Subcommittee believes that the administration of the GRE to first-year students should be continued, but has requested additional data from departments before making a formal report to the Executive Committee.

4. Lecture Series. During 1962-63 the Graduate College cooperated with several departments within the University in sponsoring a series of talks on contemporary problems of major significance to the academic profession. The series, entitled "Lectures on the Nature of the Academic Profession," was designed to provide a forum for discussion of problems in the field of higher education and to help prospective college teachers become better acquainted with these problems. The lectures dealt with teaching machines, the philosophy of teaching, institutional research, federal programs and the quality of higher education, and the prospects for a national humanities foundation.

II. Appointments and Awards for Graduate Students

A. General

1. Fellows in Residence, 1962-63. During the academic year more than 700 students held fellowships administered by the Graduate College, respresenting an increase of approximately ten per cent over the previous year. Table 4 lists the many types of awards which were active during the period and reports the number of persons who were recipients of each type. Thirty per cent of the graduate fellowships were supported by University funds, 22 per cent by industries and foundations, and 48 per cent by the federal government. Comparative data for 1960-61 were 31 per cent supported by University funds, 28 per cent by industries and foundations, and 41 per cent by the federal government.

2. Applications for Aid, 1963-64. More than 5,000 applications for financial assistance were received for the 1963-64 year. Table 5 shows the number of persons who, by the spring of 1963, had applied for financial aid for 1963-64. The kinds of financial aid preferred by students in the various areas of instruction are indicated. Figures for the preceding year also are given. Although the number of fellowship applications received during 1962-63 was only slightly greater than the number received during the previous year, it was almost eight times the number of available fellowships. Consequently, very extensive screening operations were required for selecting recipients of awards.

B. University Fellowships

1. Selection of Fellows. As during recent years, each department was assigned a maximum number of applicants it could recommend for University Fellowships and University Teaching Fellowships, this number being roughly proportional to the highest number of awards to students in the department during any one of the three preceding annual competitions. However, no department was assigned a quota less than three. The quota system produced a total of 909 applications recommended by departments as compared with 868 applications in 1961-62, and 736 during 1960-61.

Recommended applications were screened by one or another of the five subcommittees of the Graduate College Fellowship Committee: I, New Students in Pure Physical and Biological Sciences (Professor D. P. Rogers, Chairman); II, New Students in Applied Physical and Biological Sciences (Professor J. A. Quinn, Chairman); III, New Students in Education, Pure and Applied Arts, and Humanities (Professor J. F. Jackson, Chairman); IV, New Students in Pure and Applied Social Sciences (Professor P. Wells, Chairman); and V, Old Students (Professor P. E. Yankwich, Chairman).[1]

As in previous years, the final screening of University Fellowship applications was made by the Graduate College Fellowship Committee, during 1962-63 composed of

I. D. Steiner, Chairman
H. P. Broquist
J. B. Casagrande
J. R. Frey
W. S. Goldthwaite
W. J. Hall
D. Lazarus
H. V. Malmstadt
W. W. McMahon
D. L. Nanney

Table 6 reports the number of University Fellowships and University Teaching Fellowships awarded to students in the many departments of the University.

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[1] "Old" students are those previously registered in the Graduate College of the University of Illinois. "New" students are those not previously registered in the Graduate College.

2. Acceptance of University Fellowships. Table 7 shows the percentages of University Fellowships and Teaching Fellowships accepted by "old and "new" students for 1963-64 and for the two preceding years. It is to be noted that the acceptance rate among "new" students increased slightly over that of 1962-63, but the rate for "old" students declined substantially. The net result was an over-all acceptance rate which was almost identical to that for 1962-63. The declining rate of acceptance among "old" students may be attributed in part to an increase in the number of attractive awards supported by funds from outside the University. A number of students in the physical and biological sciences are known to have declined University Fellowships in order to accept such awards.

3. The Competitive Status of University Fellowships. Two important changes were made this year in the University Fellowship program. The first gave recipients the option of accepting an additional stipend for the summer session preceding or following the academic year. These supplementary awards were made possible by a grant from the University Research Board. The attractiveness of this feature of the University Fellowship program is evidenced by the fact that almost all students who accepted awards for the academic year also accepted the summer fellowship.

A second change in the program concerned Teaching Fellows. Under the new rules, University Fellows are permitted to earn up to $750 as part-time teaching assistants during the nine-month fellowship tenure, or up to $1,000 during an eleven-month tenure. The new provisions closely parallel the rules governing the part-time employment of National Science Foundation Cooperative Fellows. In addition to these two major changes, funds provided by the University Research Board have enabled the Graduate College to offer an increased number of augmented stipends to the strongest applicants for University Fellowships.

The effect of these changes was manifested in a marked increase in the acceptance rate which occurred in 1962-63, and which was maintained for 1963-64. Although the University has been able to attract a large percentage of the very best graduate students, in some disciplines the University Fellowship program is still not highly competitive. New or altered programs supported by the federal government or by other universities offer increasingly attractive stipends to the students we would most like to draw to the University of Illinois. It is apparent that an almost constant review of the competitive status of our fellowships is necessary.

4. Illinois College Fellowships. Under this program, which was begun in 1960-61, each four-year private college in the state of Illinois which awarded baccalaureate degrees to 12 or more persons who subsequently received doctoral degrees from the University during the past 20 years was invited to nominate one of its outstanding seniors for a College Fellowship. Nine colleges qualified for these awards, and all nominated candidates who were approved by the departments in which they wished to study. Seven of the nine candidates accepted College Fellowships for 1963-64, and one accepted a University Fellowship.

Four-year colleges in the state which did not qualify under the terms of this program were again notified that they would be included as soon as they qualified. The Graduate College continues to receive favorable responses to these announcements, and it is hoped that the program will bring excellent students to the University as well as contribute to cordial relations with other institutions in Illinois.

5. University Tuition and Fee Waivers. Because the number of fellowship applications has increased by 48 per cent during the past three years, while the number of available fellowships has increased by only about 20 per cent, many excellent applicants must be denied fellowships. Not all of these students can immediately be offered assistantships, and, if no other form of support were available, many of them would go elsewhere. For several years the Graduate College has dealt with this problem by awarding a number of University Tuition and Fee Waivers to well-qualified students holding no other appointments. Approximately 700 such waivers were offered for 1962-63, and over 200 were accepted. Some of the students who accepted these awards did not subsequently enroll in the University, and many others received assistantship offers from their departments when they arrived on the campus. As a result, only 126 students actually used their Tuition and Fee Waivers during 1962-63. This program attracts a large number of able and trained persons who are available as research or teaching assistants, and who often prove to be among our best graduate students.

C. Fellowships Supported by Outside Agencies

1. Fellows in Residence at the University. During 1963-64 a large number of graduate students at the University will hold fellowships supported by outside agencies. The following summary table compares awards for 1963-64 with those of 1962-63.

	1963-64	1962-63
Government-Sponsored Fellowships		
NSF Cooperative Fellowships	55	48
NSF Graduate Fellowships	46	47
NDEA Title IV Fellowships	63	52
NASA Traineeships	12	0
Woodrow Wilson Fellowships	13	9
Industrial and Endowed Fellowships	88[2]	126
Total	277	283

Tables 8 and 9 summarize the University's record in the National Science Foundation's programs for Cooperative Graduate Fellowships and Summer Fellowships for Teaching Assistants during 1963-64 and the three previous years. By comparison with other "Big Ten" schools, the University of California at Berkeley, the University of Chicago, and Harvard-Radcliffe, the record of the University of Illinois has been very good. In the 1963-64 competitions, only the University of California at Berkeley received more NSF Cooperative Fellowships, and only Minnesota and Wisconsin received more NSF Summer Fellowships for Teaching Assistants. Over the four-year period from 1960 to 1964, Illinois has led all of these institutions in the receipt of NSF Cooperative and Summer Fellowships.

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[2] Information concerning the renewal of industrial fellowships and the establishment of new ones is received throughout the spring and summer months. The number cited in this table was correct at the time this report was prepared (June 25), but the total may be increased substantially by the end of August.

The University also fared well under Title IV of the National Defense Education Act. Three new programs were approved to begin in the fall of 1963. A program in anthropology was allotted three fellowships, and a program in rock mechanics was allotted two fellowships. Three awards were authorized for a new program in comparative literature. In addition, four established programs were awarded a total of 11 new fellowships: three each in linguistics, the psychology of classroom teaching, and experimental psychology, and two in quantitative economics. These plus the fellows continuing from previous years make a grand total of 63 NDEA Fellows authorized to study at the University of Illinois during 1963-64.

2. National Aeronautics and Space Administration Traineeships. Beginning in the fall of 1963, twelve graduate students majoring in fields of study which are relevant to NASA's interests will be supported by traineeships which provide tenures of three years. Table 6 reports the major departments in which the recipients of these awards will be enrolled. It is hoped that even larger numbers of students will be awarded NASA Traineeships in the future.

3. Fellowships in National Competition. Table 10 shows the number of National Science Foundation Predoctoral Fellows who, during the period 1960-61 through 1963-64, chose the University of Illinois for their graduate studies, as compared with the number choosing each of the other "Big Ten" schools, the University of California at Berkeley, the University of Chicago, and Harvard-Radcliffe. Table 11 gives similar information for Woodrow Wilson Fellows.

During this four-year period, the University of Illinois was chosen by a total of 175 NSF Predoctoral Fellows. Although California, Chicago, and Harvard-Radcliffe surpass this figure, only Wisconsin among the "Big Ten" schools does so. Illinois continues to attract a relatively smaller number of Woodrow Wilson Fellows, most of whom major in the humanities and social sciences. Over the four-year period, Illinois ranks fifth in the "Big Ten."

D. Ruling on Income Tax for Research Assistants

After several years of negotiations concerning the taxability of sums paid to research assistants who base their dissertations on the work for which they are employed, the District Director of Internal Revenue has recently ruled that income taxes need not be withheld from remuneration paid to assistants engaged in research on grants. This ruling does not apply to salaries paid for research under contracts, although any assistant may appeal for a refund in the usual way.

E. Graduate Student Appointment Office

The number of graduate students holding appointments as teaching or research assistants has increased steadily during recent years, and funds for the employment of such persons have come from an increasingly large number of sources. The administration of programs for graduate student employment has, therefore, become a problem of considerable magnitude and complexity. To deal with this problem, an appointment office has been established in the Graduate College. Designed to facilitate the appointment, change of status, and resignation of graduate assistants, this office has processed appointments effective after August 31, 1963.

F. Fellowship Subventions to Departments

Effective in September, 1962, the Graduate College adopted a policy of granting the sum of $500 per fellow per year to the major department of each University Fellow. Similar grants are made to the major departments of NSF Cooperative, Woodrow Wilson, NDEA Title IV, and USPHS Predoctoral Fellows; and in 1963-64 this practice will be broadened to include NASA and NSF Graduate Fellowships as well. Funds for subventions have come from the University Research Board and from the institutional allowances provided by the Woodrow Wilson Foundation and the federal agencies which sponsor the awards listed above. Departments are permitted to use subvention funds for any of a wide variety of purposes connected with research and advanced instruction. Table 12 reports amounts granted to various departments as fellowship subventions during 1962-63.

III. Support of Research

A. The Center for Advanced Study

The Center for Advanced Study, activated in 1959, continues to be a successful means for recognizing and encouraging research, creative achievement, and scholarship by the University's outstanding professors.

1. New Members. A fifth member, Alexander Turyn, professor of the classics, was appointed to the Center in September, 1962, joining Professors John Bardeen, electrical engineering and physics; Joseph L. Doob, mathematics; Reynold C. Fuson, chemistry; and Julian H. Steward, anthropology. Professor Turyn is internationally known for his standard critical edition of Pindar and for his detailed studies of the Byzantine manuscript tradition of other Greek poets. He has received the Award of Merit of the American Philological Association and the Golden Cross of the Greek Order of the Phoenix. He is a corresponding member of the Polish Academy and of the Academy of Athens, and is a member of the Board of Scholars of the Dumbarton Oaks Research Library of Harvard University.

Professor Fuson, a member of the Center from its beginning retires from the University in September, 1963. Recipient of the Nichols Medal in 1953 and a member of the National Academy of Sciences, Professor Fuson has made many important contributions to theoretical organic chemistry through his studies of reactions at sterically hindered sites. His distinction as a teacher was recognized by the presentation to him in 1960 of the College Chemistry Teacher Award, sponsored by the Manufacturing Chemists' Association.

Effective in September, 1963, Professor Harry G. Drickamer of the department of chemistry and chemical engineering becomes a member of the Center. Professor Drickamer's work has ranged widely, from physical chemical studies of engineering processes and of molecular interactions in condensed phases to the development of high pressure techniques and their application to a number of basic problems in solid state physics and geology. He has developed a unique optical apparatus which permits spectroscopic measurements in the ultraviolet, visible, and infrared regions of the spectrum to pressures of 200,000 atmospheres and at temperatures of over 400° C. He has also developed a device for measuring electrical resistance in substances subject to pressures in excess of 500,000 atmospheres. Among his awards and recognitions is the Ipatieff Award of the American Chemical Society. He was chairman of the Gordon Conference on High Pressure Research in 1960.

2. *Associate Members, 1962-63*. Appointment of fourteen associate members for 1962-63 was recommended by the Executive Committee of the Center after careful consideration of all applications.

Professor F. Stuart Chapin, Jr., of the Institute for Research in Social Science at the University of North Carolina was appointed for the year to do research at the University of Illinois on the subject of urban development. Professor Ven T. Chow of the department of civil engineering was appointed for the year to investigate the use of mathematical models in the study of water-resource systems. Professor Alden Cutshall of the division of social sciences at the Chicago Undergraduate Division was appointed for the first semester to continue his research and writing on the geography of the Philippines. Professor Murray Edelman of the department of political science and the institute of labor and industrial relations was appointed for six months to study the symbolic meanings of political acts and institutions. Professor Charles W. Eriksen of the department of psychology was appointed for the year to continue his investigations into problems of attention and short-term perceptual memory. Professor Max H. Fisch of the department of philosophy was reappointed for the second semester to work on his biography of Charles Sanders Peirce. Professor Robben W. Fleming of the College of Law was appointed for the year to study job security and government participation in labor-management bargaining processes. Professor Gottfried S. Fraenkel of the department of entomology was appointed for the second semester to do research in Japan on the physiology of the slikworm and on the behavior of Pennatulacea. Professor Herbert S. Gutowsky of the department of chemistry and chemical engineering was appointed for the year to conduct magnetic resonance studies of molecular and solid state structure. Professor Henry R. Kahane of the department of Spanish and Italian was appointed for the second semester to continue work on his *Studies on the Sources of Wolfram's Parzival*. Professor Robert E. Kaske of the department of English was appointed for the year to work on a book concerned with the heroic ideal in Old English poetry. Professor Philip Kolb of the department of French was reappointed for the year to continue his investigation of Marcel Proust's letters and works. Professor Roland M. Smith of the department of English was appointed for the first semester to prepare an edition of Spenser's writings which have survived in his own handwriting. Professor Chester G. Starr of the department of history was appointed for the second semester to continue his investigations into the means by which the Romans defended Mediterranean civilization against external attack and internal threats.

3. Associate Members, 1963-64. Eleven scholars were named to associate membership in the Center for 1963-64.

Mr. Samuel Adler, artist, New York City, was appointed to be artist-in-residence for the second semester to paint and to advise graduate students in painting. Professor Bei-Tse Chao of the department of mechanical and industrial engineering was appointed for the year to conduct investigations in the field of two-phase fluid flow and heat transfer. Professor Deno J. Geanakoplos of the department of history was named for the second semester to do research in libraries and archives of American and Europe on the relations of the Byzantine Orthodox Church with Roman Catholicism and the Russian Church, and also on the influence of Byzantine and Venetian-dominated Crete in the Renaissance of Western Europe. Professor William J. Hall of the department of civil engineering was appointed for the year to complete a monograph on the brittle fracture of fabricated steel structures, and to conduct further studies in the areas of fracture mechanics and structural analysis. Professor Donald R. Hodgman of the department of economics was named for two years to conduct quantitative studies of commercial bank behavior, with emphasis on micro-analytic computer simulation of the commercial banking system. Professor J. Robert Kelly of the School of Music was appointed for the year to compose an opera based on the conquest of Aztec Mexico by Cortez and provisionally entitled Conquistadore. Professor Sherman Paul of the department of English was appointed for the year to complete his final volume of studies of the tradition of the "American scholar." Professor Charles P. Slichter of the department of physics was appointed for the year to conduct investigations of electron and nuclear magnetic resonance. Professor Philip A. Wadsworth of the department of French was named for the year to complete work on his study of the writings of La Fontaine. Professor John H. Walter of the department of mathematics was appointed for the year to continue his research into the theory of finite groups. Professor Frederick L. Will, chairman of the department of philosophy, was appointed for the second semester to complete his book on the "problem of induction."

B. Faculty Summer Fellowships

This program, which was initiated in 1958, continues to be very attractive to younger members of the faculty. It provides a small, tax-exempt stipend which permits the recipient to devote full time to scholarly endeavors during the summer months. During 1962-63, eighty-nine applications were received, 15 from the Chicago Undergraduate Division, and 74 from the Urbana campus. A total of 43 awards was offered for the summer of 1963. Table 13 reports the distribution of awards by departments since the program was begun.

Although the University Research Board has substantially increased its support of this program, the number of meritorious proposals still exceeds the number of available awards. Additional funds are needed to expand the program's scope to a level which is commensurate with its potential contribution to the productivity and morale of junior faculty members.

C. University Research Board

1. Appropriations Made. During the period July 1, 1962, through June 30, 1963, the University Research Board acted on 277 requests presented by members of the faculty. The appropriations made are shown in Table 14. In the

tabulation, summaries are first given for the seven major categories, each of which is presented in detail in the body of the table. Totals for these seven major categories are reproduced below:

University Research Board Appropriations, 1962-63

General University Purposes	$645,859
Humanities and the Arts	73,364
Social Sciences	114,332
Education	4,760
Biological Sciences	136,996
Physical Sciences	219,700
Chicago Undergraduate Division	15,882
Total	$1,210,893

The first group of appropriations, these for general University purposes not directly attributable to individual departments, totals almost twice the amount designated for the same purposes during the preceding year. The increase results from the appropriations of $100,000 to the newly established fellowship subvention program and $300,000 to the Digital Computer Laboratory in partial support of its greatly expanded program. The appropriation to the University Library, much of it for Slavic acquisitions, was somewhat lower than that for the previous year but remained much higher than that for any earlier year. These appropriations, along with those for Faculty Summer Fellowships and for the graduate student fellowships, serve needs of the whole University and account for more than half of all University Research Board appropriations.

The doubling of appropriations for general University purposes has reduced the amounts available in other categories. However, part of the purpose of establishing a fellowship subvention fund was to make available to the departments some research support in proportion to their numbers of outstanding graduate students, in the hope that the departments would be relieved of the necessity of making numerous applications to the Research Board for small items. The fellowship subvention funds provided by the Research Board were distributed as follows:

Arts and Humanities	$27,250
Social Sciences	27,625
Education	500
Biological Sciences	8,375
Physical Sciences	36,250
Total	$100,000

Addition of these amounts to those in the last column of Table 14 shows that total research support during the year, as compared to the preceding year, increased slightly for the arts and humanities and for the physical sciences, and substantially for the social sciences, whereas that for the biological sciences decreased significantly. Education received little direct support from the Research Board, but a substantial appropriation from institutional grant funds (see Table 16) was made to it.

Most of the appropriations to the sciences continue to be for instruments and equipment. These are needed by young faculty members who are just starting research programs and by established scientists who have recently come to Illinois with research plans requiring substantial re-equipment of laboratories. Some appropriations for equipment are made to enable faculty members to take immediate advantage of break-throughs in their research or to acquire newly developed instruments of unusual value. A number of such appropriations are made in conjunction with applications to outside agencies by the faculty members concerned, so that they can proceed with their work whether or not the outside applications are successful. When such applications are successful, the unexpended Research Board appropriations are returned and the funds are reappropriated. All figures in the table refer to amounts appropriated and, especially in the sciences, they are greater than the amounts actually spent.

In the social sciences approximately 75 per cent of the appropriations have been to provide graduate research assistants to faculty members, with smaller portions for the purchase of materials and for travel essential to research. In the humanities and arts the need for research assistants evidently is only slightly less (almost 70 per cent of the appropriations). The remainder of the appropriations in these areas is to meet requirements for materials, travel, and assistance with publication. Many departments in the physical and biological sciences no longer make any requests for research assistants in consequence of greatly increased federal support of graduate students in their areas.

Serving on the University Research Board in 1962-63 were

F. T. Wall, Chairman
R. K. Mautz
A. V. Nalbandov
N. M. Newmark
M. V. Novak
C. E. Osgood
S. Paul
C. P. Slichter
H. R. Snyder, Secretary
S. Spiegelman
N. Wax.

2. Review of Applications for Research Grants and Contracts and of Gifts for Research. The number of applications for research aid submitted by faculty members to outside agencies continues to increase. The greater part of the funds coming to the University in a particular year as the result of such applications actually is generated by applications made during the preceding years; it is not uncommon for the processing of applications by federal or other agencies to require more than six months, and many of the successful applications are for continuing projects so that payments of the grants are made at intervals over several years. Thus, much of the research now in progress is supported by grants and contracts made in response to applications originating during 1962, 1961, and even earlier years.

Table 15 shows a statistical summary of the applications made during the period July 1, 1961, through June 30, 1962, and the status of those applications as of July 1, 1963. It should be noted that of the 744 proposals submitted, 523 had been acted upon favorably before July 1, 1963, producing awards totaling almost $24,000,000. The time-lag in the action taken is illustrated by the fact that as of July 1, 1962, only 275 of these same applications had been the subjects of favorable action, producing about $7,250,000 in awards as of that date. In this fiscal year, multiple applications for the construction and operation of the Materials Research Laboratory increased the amount requested very substantially. Multiple applications continue to be encouraged by some federal agencies, not only in connection with large building projects like the one just cited, but also in regard to research grants. Substantially identical proposals have been sent to as many as four agencies with the expectation that one would support the work solely or perhaps two jointly. The 221 applications for the year 1961-62 which are listed as denied or still pending include such duplicates and triplicates. Even so, it is to be noted that approximately 70 per cent of the applications have been supported wholly or partially.

During the year ending June 30, 1963, the number of proposals sent to outside agencies rose to 983, or some 30 per cent above the figure for the preceding year. However, the total of the funds requested dropped by about seven per cent, principally because of fewer multiple applications for very large sums. There was no significant change in the percentage of proposals receiving favorable action within the fiscal year in which they were submitted, but since the total number submitted during the fiscal year 1962 was greater and since the average amount granted to successful proposals rose (to about $31,000 from about $26,400), the total granted against new proposals increased by about 50 per cent (to about $10,870,000 from about $7,250,000 for the previous year). Nearly 60 per cent of the proposals submitted during the fiscal year 1962 had not been acted upon as of July 1, 1963; it is possible that action on these proposals will increase the total granted to a new high.

It is quite common for a research proposal to request continuing support over a period of several years. Negotiations between the agency and the investigator frequently result in a change in the length of the grant period, usually in a downward direction, and this is one reason why in general grants are for less than the amounts requested. Sometimes, however, the negotiations result in support for periods longer than originally contemplated, resulting in grants in excess of the amounts originally requested. Grants for increased periods were made with sufficient frequency during the past year so that in several areas the total granted actually exceeds that originally requested. It is to be remembered that the totals reflect funds that will be paid to the University over periods of several years, some as long as five years.

The year saw a significant increase in the number of proposals in the fields of the pure social sciences and in education, and it is to be hoped that the amounts eventually granted in these two areas will be substantially greater than those resulting from the corresponding applications of the preceding year. The number of proposals originating in the biological and physical sciences continued to increase, and there is every reason to suppose that the grants made likewise will increase. Unfortunately, there are but few organizations to which artists and scholars in the humanities may turn for the support of their creative work. Until there is greater national concern for improvement of opportunity in these fields, the University and the Graduate College must find ways to continue and increase the internal support for them.

D. University Patent Committee

The University Patent Committee received during the past year from University staff members 22 disclosures of potentially patentable inventions. Most of these inventions were submitted to the University of Illinois Foundation for further study.

The Patent Committee recommended the following action with reference to the rights of the University on inventions received this year and inventions which had been under study from previous years:

Three -- released to the inventors;
Nine -- released to agencies outside the University sponsoring the investigation, usually the United States government; and
Eight -- released to the University of Illinois Foundation for further study and possible patent application.

With the cooperation of the Foundation, the Patent Committee revised its evaluation procedures to expedite decisions concerning disclosures. Considerable attention was given to conflicts between the University patent policy and those of research sponsoring agencies. A systematic study of this problem will probably be necessary in the near future.

Members of the Patent Committee for 1962-63 included:

R. J. Maurer, Chairman
J. C. Colvin
J. J. Costello
C. C. DeLong, Secretary
J. E. Robertson
O. B. Ross
H. R. Snyder

E. Institutional Grants

The National Science Foundation Institutional Grant made to the University was again the maximum available to any single university, or $50,000. The grant received during the preceding year actually was for only three-fourths of a year, and it was limited to $37,500. As with the earlier grant from this source, the entire sum was assigned to the Center for Advanced Study (see p. 8) for use in supporting the appointments of associate members and members, as well as those of research assistants and associates working with the members.

The University also received the sum of $2,500 per fellow in conjunction with the National Defense Education Act Fellowships, certain Office of Education Fellowships, United States Public Health Service Fellowships, and National Science Foundation Faculty Fellowships; the sum of $2,000 for each National Science Foundation Cooperative Fellowship; and the sum of $500 for each National Science Foundation National Fellowship. Parts of these grants have been assigned to the Graduate College for allocation directly to departments, for partial support of the fellowship subvention program, and for other purposes. A summary of the receipts and allocations of institutional grant funds appears in Table 16.

F. Associated Research and Service Enterprises

1. Digital Computer Laboratory. The Digital Computer Laboratory has made substantial progress in its program of expansion, both in building and in equipment, and the year has been marked by further growth of its instructional, research, and service activities. Construction of the first addition to the Laboratory building has begun, and a grant of $483,500 was made by the National Science Foundation in support of the second addition.

The central processor portion of the new, very-high-speed computer, ILLIAC II, has been in operation since September, 1962. Present emphasis is on connecting peripheral input-output equipment to the machine, including a 64,000-word drum designed in the Laboratory, an IBM 1401 computer, 10 magnetic tape units, and two IBM 1301 disc files. These latter pieces of equipment have been donated by International Business Machines Corporation. The project itself has received substantial support from the Atomic Energy Commission, the Office of Naval Research, and the National Science Foundation, as well as from the University.

Enrollment in courses taught by members of the Laboratory staff has continued to increase. In particular, the enrollment in Mathematics 195, the introductory course, has grown to 332. During the year, 45 graduate assistants were employed in the Laboratory, most of whom were also registered as Ph.D. candidates engaged in thesis research with members of the staff. Six students expect to receive the Ph.D. degree in October, 1963. The staff of the Laboratory has grown from 118 individuals in June, 1962, to 185 in June, 1963. Much of the research carried on by members of the staff has been concerned with the design of the very-high-speed computer. Programs on computer circuits, switching theory, automatic analysis of extensive data (pattern recognition), numerical analysis, and efficient methods for using computers continue to make important progress.

The service program of the Laboratory was greatly expanded with the arrival of the 7090-1401 computing system which was placed in operation October 1, 1962. The computing capacity of this system is approximately 20 times that of the original ILLIAC which was withdrawn from service December 31, 1962. A second IBM 1401 is being installed to provide badly needed increased input-output capacity for the 7090. During June, 1963, the 7090 was converted to a 7094 which increased the arithmetic speed of the system by almost a factor of two. During the eight months, October 1, 1962, to May 31, 1963, the system was operated for 1,643 hours for research and educational purposes. During May alone, close to 14,000 individual runs were made. Of the total operational time almost one-fifth (317 hours) was in behalf of thesis research not supported by grants from agencies outside the University. An even larger amount (880 hours) was devoted to unsponsored non-thesis research by staff members representing many departments of the University.

2. Natural Areas and Uncultivated Lands. The work of the Committee on Natural Areas and Uncultivated Lands has centered on the physical maintenance and encouragement of research and teaching in the University-owned natural areas: Trelease Woods, Trelease Grasslands tract, Brownfield Woods, Allerton Park, Volo and Wauconda Bogs, and certain prairie strips

along railroad rights of way east of Urbana. The Committee also investigated the possibility of adding another natural area around the radio telescope near Danville and has recommended the purchase of additional lands for this purpose.

Members of the Committee included:

S. C. Kendeigh, Chairman
L. C. Bliss
W. R. Horsfall
J. A. Jackobs
G. N. Jones
R. T. Odell
H. H. Shoemaker
J. N. Spaeth.

3. Physical Environment Unit. Use of the Physical Environment Unit facilities was unusually high. Eight research projects, six class demonstrations, and one seminar were conducted variously by eight departments or divisions of the University. All or part of the investigative work for two Ph.D. theses and five master's theses was done through the facilities of the Unit. Modifications and additions to the Unit plant have included: (1) silicone treatment and painting of the wall surfaces of rooms 119 and 124 to reduce migration of water vapor through them; (2) installation of plastic sheeting over the ceiling insulation of room 124 to reduce moisture migration; (3) construction and installation of special apparatus to provide a jet of conditioned air inside the altitude chamber for psychological studies, and (4) construction of a shielded room for electroencephalographic work.

Physical Environment Unit Committee members for 1962-63 were:

M. K. Fahnestock, Chairman
F. E. Boys, ex officio
L. G. Humphreys
S. Konzo
A. V. Nalbandov
F. Sargent II.

4. Radiation Hazards. A continuing steady increase in the use of radioactive materials and radiation sources was reported by the Committee on Radiation Hazards. Completion of several new laboratory buildings has increased the number of radio-isotope laboratories in operation; however, the radiation protection program has run quite smoothly with no unusual problems arising. No serious radioactive spills or radiation exposures occurred during the year. Radioactive waste disposal is a continuing, but manageable problem.

Radiation Hazards Committee members for 1962-63 were:

R. F. Nystrom, Chairman
J. S. Allen
J. Doak
H. S. Ducoff
L. E. Elliott
A. O. Hanson
J. P. Hummel
J. J. Steerman
O. S. Walters.

5. Radiocarbon Laboratory. Facilities of the Radiocarbon Laboratory were used for research projects by 21 persons from seven University departments or divisions. In addition, major research projects of the Laboratory staff during the year have included: (1) study of the enzymatic lactonization and mechanism of enzymatic oxygen activation; (2) determination of the structures of complex microbial polysaccharides and the mechanisms for their biosynthesis; (3) investigation of the radiation-induced addition and substitution of tritium in olefinic compounds; (4) preparation of high-level tritium labeled compounds by catalytic tritiation with one cubic centimeter of tritium gas; and (5) synthesis of tritiated olefinic compounds by stereospecific methods. Two outside grants have helped to support the research; in addition, two grants-in-aid totaling about $5,000 were given by the Upjohn Company and Abbott Laboratories. The staff of the Laboratory also has served in advisory capacities on carbon-14 and tritium problems and techniques for University faculty and students and for visitors from laboratories in the United States and foreign countries.

6. Illinois Historical Survey. In addition to its continuing program of collecting and calendaring materials relating to the history of Illinois and the Middle West during the 18th and 19th centuries, the Illinois Historical Survey, under the direction of Mrs. Marguerite J. Pease, was able during the past year to assist materially in the establishment of a separate University Archives agency. Much preliminary work was done under an acting archivist during 1962-63, and a University Archivist has been appointed, effective September 1, 1963.

G. Support of Scholarly Publications

1. Publications by the University Press. The University of Illinois Press is the central agency responsible for coordinating and producing all University publications. One of its important functions has been to provide for book publication of worthwhile studies by scholars and research workers on the campus and elsewhere. It has been especially concerned with gaining a hearing for authors whose works have importance and quality but lack the wide appeal required for commercial publication.

Since it was established in 1918, the University Press has published more than 750 scholarly and scientific books. It has earned a world-wide reputation not only for its distinguished lists but also for its excellent graphic design. Besides an output of a score or more books each year, it issues quarterly journals in law, mathematics, library science, and language and literature.

During 1962-63 the Press published 30 books including the first seven numbers in the new Illini Books paperback series. This compares to 23 books issued during the same period in 1961-62. The publications for the year, along with a listing of books in process, are described in Table 17.

Members of the University Press Board during 1962-63 included:

F. T. Wall, Chairman
R. W. Johannsen
M. Muntyan, Secretary
T. Peterson, Vice Chairman
R. W. Rogers
J. R. Shipley
P. E. Yankwich.

Committee members for the University Studies series were:

Biological Monographs: F. J. Kruidenier, Chairman
T. Delevoryas
R. D. DeMoss
J. G. Sternburg
A. B. Taylor.

Monographs in Anthropology: J. B. Casagrande, Chairman
R. W. Janes
J. A. Russell.

Monographs in the Medical Sciences: S. R. M. Reynolds, Chairman
E. R. Kirch
J. P. Marbarger
I. Schour
R. J. Winzler.

Studies in Language and Literature: B. A. Milligan, Chairman
J. R. Frey
P. Kolb.

Studies in the Social Sciences: R. W. Harbeson, Chairman
M. H. Fisch
R. W. Johannsen
R. E. Scott.

2. *Annual List of Publications of the Faculty*. The 1962 list of scholarly publications of the faculty and administration again demonstrated, by its expanded length, the constant increase in scholarly productivity of the staff. Over 1,400 University faculty members at Urbana and Chicago are represented with one or more publications in the 1962 list, which also includes titles of doctoral dissertations.

An innovation in format was the cover design which reproduced an original art work by a member of the University art faculty, Professor Lee Chesney. It is hoped that a series of covers by art faculty members over several years will serve as one means of recognizing creative accomplishment of the faculty.

3. *The Illinois Journal of Mathematics and The Journal of English and Germanic Philology*. These journals are published quarterly under the auspices of the Graduate College. During the year the *Illinois Journal of Mathematics* published 52 papers totaling 700 pages; the *Journal of English and Germanic Philology* contained 972 pages divided among 51 articles and 180 reviews. An author-subject index to the first 50 volumes of *JEGP* also was published as a separate supplement. Both journals have a large backlog of articles accepted for later publication.

Serving on the editorial board of the *Illinois Journal of Mathematics* during 1962-63 were:

P. T. Bateman
R. Baer
R. G. Bartle
D. G. Bourgin
S. S. Chern
P. Hilton.

Members of the *JEGP* board of editors during 1962-63 were:

G. B. Evans, Chairman
R. L. Haig
P. M. Mitchell
E. A. Philippson
R. W. Rogers
J. Stillinger
G. B. Stillwell.

IV. Chicago Undergraduate Division Liaison Committee

During 1962-63 the original six members continued to serve as a Liaison Committee of the Chicago Undergraduate Division and the Graduate College. Each member of this Committee attended one meeting of the Graduate College Executive Committee and one or more meetings of the University Research Board, as well as meetings of the subcommittees of the Executive Committee. The Committee will continue to operate with some rotation of membership in future years, and it is hoped that the experience gained by its members will be useful in the expansion to graduate programs at the Congress Circle campus.

However, the Committee feels an urgent need for and recommends the appointment of a part-time representative of the Graduate College from the present Undergraduate Division faculty. This representative would serve as a clearinghouse for information and advice on research grants, fellowships, and other aids to scholarly activity, and future appointments to the graduate faculty.

Members of the Committee were:

K. M. Madison, Chairman
H. W. Barber
L. Chandler
A. D. Cutshall
J. Sanchez
A. Schiller.

V. Chicago Medical Center Division of the Graduate College

(From a report prepared by Milan V. Novak, Associate Dean)

A. Introduction

Foremost in the activities this year of the Executive Committee and the faculty was the deliberation on a proposal to offer a master's degree program in nursing, which departed somewhat from other curricula and from a policy of the Graduate College Division on this campus as summarized in the 1952-53 Annual Report:

> Regarding objectives for graduate work on this campus, consensus is now fairly well crystallized that the differentiation of graduate work from vocational or technical training is fundamentally necessary. . . .

Consequently, all proposals for new degree programs in the professional areas of medicine, dentistry, and pharmacy have been carefully scrutinized to ascertain the inclusion of a substantial segment of scholarly endeavor which characterizes the traditional graduate degree.

This year, with the submission of a master's degree proposal in nursing, these issues became a focus of attention. Although the faculty recognized that the traditional basic objectives of graduate education have become confused in recent years chiefly because of the trend and emphasis on technological developments and their resulting influence on our current civilization, the faculty maintained that the graduate degree must represent a distinct segment of scholarship and intellectual development in order to retain its traditional validity.

The curricular specifications for the nursing program were replete with formal courses representing both theory and vocational practices with a smaller segment of non-laboratory derived research. The curriculum, furthermore, portrayed a relatively fixed program similar to those common to professional curricula and distinctly dissimilar to existing master's degree programs on this campus.

The Executive Committee submitted that at the master's level, graduate education has been made to represent several areas, namely, research degrees, teachers' degrees, professional degrees, and cultural degrees. While recognizing that the master's degree, as a graduate degree, in many universities has been modified beyond control and that its identity has been greatly diversified both in quality of programs and areas of discipline, the Executive Committee and faculty agreed that a similar trend in the area of the Ph.D. degree should be vigorously resisted.

Through these discussions it became obvious that the essentials and objectives of graduate study on this campus can no longer remain uniform, but must embrace both the practical professional training and the traditional graduate degree program. It was decided, however, that the two areas must be clearly delineated, and that the actual degree designations must be kept distinct. The recommendation that the degree awarded in the nursing curriculum not be designated as Master of Science was later modified and accepted as Master of Science in Nursing (M.S.N.). The first group of students in this program has been formally admitted for the fall of 1963.

B. Administration

1. Enrollment. Enrollment in the fall quarter of 1962-63 was 198--compared to 116 in 1957-58--and represented a 22 per cent increase over 1961-62 when the total was 155. A complete summary of enrollment by departments will be found in Table 18.

On this campus where undergraduate curricula are designed primarily to provide training for professional practice, few of our students desire to continue at the graduate level. For this reason, and also because the professional degree is not an essential requirement for teaching and research in many areas in professional college curricula--especially in the basic sciences--a large number of students who enroll for graduate studies are those with baccalaureate degrees from liberal arts colleges. It is necessary, therefore, to carry on active recruitment by personal appearances of staff members at college campuses, circulation of leaflets announcing opportunities at the Medical Center, distribution of information on financial aid, and word of mouth "advertising" by graduate students already here.

During the past two years our efforts have been concentrated in several liberal arts colleges whose students have made excellent records here in graduate work. Direct correspondence with science faculty members who act as premedical student advisers has yielded excellent results in recruitment. As a consequence, a notable increase in the number of highly qualified candidates has been realized and a definite reversal has been noted from the situation reported in previous annual reports when concern was expressed over application and acceptance of inferior quality students.

2. Financial Aid. Support is being provided to an increasing extent through traineeship stipends. A total of $441,054 in training grants in 11 disciplines was designated for stipends and training expenses primarily for graduate students. The allocation of up to $30,000 from the College of Medicine's NIH General Research Support Grant has augmented our source of fellowship stipends during the past year for medical students who conduct graduate studies and research during the summer quarter or during the academic year in addition to their full time medical curriculum. The usual teaching and research assistantships, the budgetary appropriation of $20,000 for University Fellowships, the Research Board, and a number of industrial fellowships are other continuing sources of graduate student support. Payment of tuition and fees from grants and Graduate College Tuition and Fee Waivers provided for 70 per cent of the students in 1962-63.

3. Courses, Curricula, and Graduate Faculty. A record number of 29 new courses was approved, along with a new curriculum, the Master of Science in Nursing, described above.

In other important actions, members of the Executive Committee met with the Executive Committee at Urbana to consider basic minimum requirements for the Master of Science and Ph.D. degrees on this campus. The group recognized that problems in the Medical Center graduate programs arise primarily from widely divergent backgrounds of students initiating graduate study. Some have dental or medical degrees representing sever or eight years of academic work, while others have only the four years required for the baccalaureate. To resolve these difficulties the following objectives were agreed upon: (1) Similar standards must be maintained for equivalent degrees conferred at the two campuses, and (2) in every graduate program, there must be a central core of formal graduate courses.

The faculty approved the principle that the general over-all requirements of the Graduate College for the Ph.D. degree state only the minimum required units in 400-series courses, including research, seminars, and formal courses, leaving the 300-level course requirements to departmental discretion.

During the year, six faculty members were approved for full graduate standing, 12 for master's standing, and 14 for limited standing.

The Executive Committee, in its nine meetings, also approved the following policies:

(1) Allow medical students who rank in the top one-third of their class (following completion of at least one year of the medical curriculum) to pursue graduate work to the extent of a 25 per cent overload.

(2) Accept students for enrollment who have 4.0 or better averages in the last 60 hours of undergraduate work, irrespective of the total over-all undergraduate average.

(3) Continue the policy of individually listing each graduate student in the commencement program along with his thesis title and major adviser.

(4) Define a "formal" graduate course as one which has: Continuity of subject matter in a circumscribed areas of a discipline; subject matter brought to the student primarily through formal lectures or laboratory presentations; formal reading assignments as an integral requirement, and a formal evaluation of the student by means of one or more written examinations.

(5) Reaffirm the principle of the quarter system, in operation on the Chicago campus for over 20 years, as a means of achieving maximum efficiency through year-round operation of University facilities.

Members of the Executive Committee for 1962-63 were:

M. V. Novak, Chairman
S. B. Binkley
A. M. Burkman
H. R. Catchpole
R. Daniels
M. B. Engel
R. W. Pumper
M. P. Schulman
Neena Schwartz.

Dr. Schwartz replaced Dr. William Whitehorn on the Committee after his departure on a two-year leave for Chiengmai Medical School, Thailand.

4. Degrees Conferred. Table 18 shows the degrees conferred by disciplines. The totals of 37 master's degrees and 17 Ph.D. degrees awarded in 1962-63 compare favorably with the totals of 38 and 18, respectively, granted in 1961-62.

C. Promotion and Assistance of Research

During 1962-63 fifty-one projects were approved by the University Research Board Chicago Medical Center Subcommittee at a total of $148,843. Distribution of the funds by departments is shown in Table 19. Subcommittee members were:

M. V. Novak, Chairman
N. G. Grand
J. P. Marbarger
A. J. Perkins
Neena Schwartz.

Further support of research and research training is given through training grant funds administered by the Graduate College. During 1962-63, grants to 22 departments totaled $783,617.

TABLE 1

ANNUAL ENROLLMENT a/

Year	In Residence		In Absentia	Total
	Men	Women		
1962-63	6,116	2,176	221	8,513
1961-62	5,584	1,982	196	7,762
1960-61	5,269	1,799	202	7,270
1959-60	4,953	1,635	192	6,780
1958-59	4,601	1,569	200	6,370
1957-58	4,169	1,450	205	5,824
1956-57	3,990	1,379	76	5,445
1955-56	3,743	1,279	82	5,104
1954-55	3,570	1,303	85	4,958
1953-54	3,693	1,275	53	5,021

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a/ The figures represent total numbers of different individuals registered at least once during the academic year and the preceding summer session.

TABLE 2

ENROLLMENT BY DEPARTMENTS

1960-61 -- 1962-63

DEPARTMENT	1962-63	1961-62	1960-61
LIBERAL ARTS AND SCIENCES			
Anthropology	40	24	15
Astronomy	13	11	7
Biological Sciences	24	13	9
Teaching of Biological Sciences & General Science	38	33	50
Botany	48	47	45
Chemistry	344	326	330
Chemical Engineering	51	55	54
Teaching of Chemistry	12	3	4
Classics			
Classical Philology	7	6	8
Greek	3	3	1
Latin	7	3	2
Teaching of Latin	2	4	1
English	287	284	254
Teaching of English	33	30	35
Entomology	41	42	42
French	85	62	36
Teaching of French	4	4	6
Geography	30	39	38
Teaching of Geography	2	1	a
Geology	83	86	94
German	36	27	22
Teaching of German	5	7	4
History	152	132	140
Linguistics	24	12	3
Mathematics	419	336	193
Statistics	15	15	12
Teaching of Mathematics	88	55	138
Teaching of Mathematics and Physical Sciences	b	0	1
Microbiology	52	56	47

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a/ Data not available because of change in student record categories.

b/ Program not offered.

ENROLLMENT BY DEPARTMENTS (cont.)

DEPARTMENT	1962-63	1961-62	1960-61
Philosophy	33	45	41
Physical Sciences	0	4	2
Teaching of Physical Sciences	6	5	4
Physiology	67	60	50
Political Science	70	71	59
Public Administration	3	0	0
Psychology	172	159	138
Russian	17	11	8
Social Sciences	12	6	11
Teaching of Social Studies	40	35	34
Sociology	52	58	52
Spanish	67	62	53
Italian	1	1	2
Portuguese	2	1	0
Teaching of Spanish	6	4	2
Speech	126	113	106
Speech Correction	20	17	31
Teaching of Speech	8	3	6
Zoology	84	69	82
Subtotal	2,731	2,440	2,272
AGRICULTURE			
Agricultural Economics	61	61	68
Agricultural Education	9	11	10
Agricultural Engineering	21	18	15
Agronomy	64	80	85
Animal Science	50	58	47
Animal Nutrition	4	7	14
Dairy Science	33	27	23
Food Technology	48	41	42
Dairy Technology	8	9	10
Forestry	5	b	b
Home Economics	54	50	52
Home Economics Education	15	16	14
Horticulture	29	23	25
Plant Pathology	23	21	16
Subtotal	424	422	421

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b/Program not offered.

ENROLLMENT BY DEPARTMENTS (cont.)

DEPARTMENT	1962-63	1961-62	1960-61
COMMERCE AND BUSINESS ADMINISTRATION			
Accountancy	76	77	66
Accounting Science	52	25	27
Business	43	52	49
Business Administration	81	39	37
Commercial Teaching	34	24	28
Economics	132	112	108
Finance	39	36	30
Management	16	13	21
Marketing	48	29	26
Subtotal	521	407	392
EDUCATION			
Education	1,673	1,542	1,484
Education of Deaf	0	1	2
Education of Mentally Handicapped Children	10	9	13
Subtotal	1,683	1,552	1,499
ENGINEERING			
Aeronautical & Astronautical Engineering	33	34	34
Ceramic Engineering	19	22	21
Civil Engineering	306	288	313
Sanitary Engineering	24	17	10
Electrical Engineering	337	345	324
Mechanical Engineering	152	163	157
Metallurgical Engineering	52	57	45
Mining Engineering	10	11	8
Nuclear Engineering	49	46	32
Physics	287	265	253
Teaching of Physics	2	1	4
Theoretical and Applied Mechanics	96	93	88
Subtotal	1,367	1,342	1,289

ENROLLMENT BY DEPARTMENTS (cont.)

DEPARTMENT	1962-63	1961-62	1960-61
FINE AND APPLIED ARTS			
Architecture	35	41	39
Architectural Engineering	18	7	6
Art			
Art Education	19	14	15
Art History	10	10	7
Design	5	5	3
Painting and Printmaking	28	24	25
City Planning	27	23	22
Landscape Architecture	3	10	11
Music	87	65	58
Musical Arts	53	55	52
Music Education	193	175	206
Musicology	16	16	14
Subtotal	494	445	458
JOURNALISM AND COMMUNICATIONS			
Advertising	20	11	11
Journalism	24	22	16
Radio and Television	11	6	6
Television	6	7	2
Subtotal	61	46	35
LAW			
Law	8	9	9
Comparative Law	5	4	3
Subtotal	13	13	12
PHYSICAL EDUCATION			
Dance	7	5	3
Health Education	15	19	15
Physical Education	143	137	132
Recreation	33	35	32
Subtotal	198	196	182

ENROLLMENT BY DEPARTMENTS (cont.)

DEPARTMENT	1962-63	1961-62	1960-61
OTHER			
Biophysics	15	8	5
Chemical Physics	2	0	0
Communications	56	50	38
Extension Education	7	b	b
Labor & Industrial Relations	45	48	36
Library Science	242	237	210
Social Work	105	87	81
Veterinary Medical Science	47	50	42
Subtotal	519	480	412
UNCLASSIFIED	502	419	298
IN ABSENTIA	(221)c/	(196)c/	(202)c/
TOTAL	8,513	7,762	7,270

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b/ Program not offered.

c/ These students are included in the foregoing departmental figures.

TABLE 3

DEGREES CONFERRED

FIELD OF STUDY	Ph.D. 1962-63	Ph.D. 1961-62	Ph.D. 1960-61	A.M. and M.S. 1962-63	A.M. and M.S. 1961-62	A.M. and M.S. 1960-61
Accountancy	9	5	3	15	13	12
Advertising	a	a	a	3	0	3
Aeronautical & Astronautical Engineering	0	3	1	7	9	9
Agricultural Economics	9	11	6	9	16	12
Agricultural Education	a	a	a	1	2	3
Agricultural Engineering	a	a	a	6	4	4
Agronomy	6	15	14	6	15	14
Animal Nutrition	2	3	4	10	0	0
Animal Science	4	3	4	2	9	4
Anthropology	0	0	0	4	1	1
Architectural Engineering	a	a	a	4	4	2
Art Education	a	a	a	6	3	6
Art History	a	a	a	1	2	2
Astronomy	2	0	0	2	2	0
Biological Sciences	a	a	a	4	1	2
Biophysics	1	0	1	1	a	a
Botany	4	3	7	7	7	7
Business	11	6	4	a	a	a
Ceramic Engineering	3	2	4	10	3	2
Chemical Engineering	7	10	10	19	10	10

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a/ Degree not offered

DEGREES CONFERRED(cont.)

FIELD OF STUDY	Ph.D. 1962-63	Ph.D. 1961-62	Ph.D. 1960-61	A.M. and M.S. 1962-63	A.M. and M.S. 1961-62	A.M. and M.S. 1960-61
Chemistry	58	47	57	44	42	42
City Planning	a	a	a	9	7	6
Civil Engineering	19	28	26	86	83	102
Classical Philology	0	1	2	a	a	a
Classics	a	a	a	0	0	1
Commercial Teaching	a	a	a	2	4	2
Communications	2	2	3	a	a	a
Dairy Science	8	3	2	9	2	5
Dairy Technology	2	2	2	1	0	1
Dance	a	a	a	1	1	1
Economics	10	8	10	16	21	20
Education	10	11	15	3	15	3
Education of Deaf	a	a	a	0	0	0
Education of Mentally Handicapped Children	a	a	a	7	10	3
Electrical Engineering	28	28	17	102	96	99
English	23	21	6	44	44	39
Entomology	5	6	8	3	2	5
Finance	2	2	0	6	11	7
Food Technology	6	6	6	5	4	5
French	3	0	0	13	14	6
Geography	4	5	1	4	3	8
Geology	20	18	23	9	13	11

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a/ Degree not offered.

DEGREES CONFERRED(cont.)

FIELD OF STUDY	Ph.D. 1962-63	Ph.D. 1961-62	Ph.D. 1960-61	A.M. and M.S. 1962-63	A.M. and M.S. 1961-62	A.M. and M.S. 1960-61
German	1	0	3	6	1	2
Greek	a	a	a	2	1	0
Health Education	a	a	a	11	8	7
History	5	8	17	16	14	14
Home Economics	1	0	0	13	7	18
Home Economics Education	a	a	a	2	1	5
Horticulture	3	2	2	4	4	3
Italian	0	1	1	0	0	0
Journalism	a	a	a	8	4	5
Labor & Industrial Relations	a	a	a	11	15	13
Latin	a	a	a	1	0	1
Library Science	1	1	4	81	65	84
Linguistics	0	0	0	4	7	1
Management	a	a	a	4	4	8
Marketing	0	0	0	12	9	8
Mathematics	12	17	8	134	80	28
Mechanical Engineering	6	9	7	38	53	52
Metallurgical Engineering	3	6	4	11	8	14
Microbiology	7	8	6	4	3	3
Mining Engineering	0	0	0	1	4	3
Music Education	a	a	a	45	35	51
Musicology	3	0	1	a	a	a
Nuclear Engineering	0	0	0	13	25	11

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a/ Degree not offered.

DEGREES CONFERRED (cont.)

FIELD OF STUDY	Ph.D. 1962-63	Ph.D. 1961-62	Ph.D. 1960-61	A.M. and M.S. 1962-63	A.M. and M.S. 1961-62	A.M. and M.S. 1960-61
Philosophy	1	4	3	5	4	4
Physical Education	6	2	4	32	36	29
Physical Sciences	a	a	a	0	1	0
Physics	14	27	19	68	54	64
Physiology	6	4	5	13	15	8
Plant Pathology	6	3	2	3	0	3
Political Science	6	7	11	9	10	9
Psychology	20	15	15	16	16	20
Public Administration	a	a	a	0	1	0
Radio & Television	a	a	a	2	3	4
Recreation	a	a	a	13	15	8
Russian	0	0	0	2	1	1
Sanitary Engineering	0	0	0	12	4	1
Social Sciences	a	a	a	4	1	6
Sociology	1	8	1	6	3	9
Spanish	3	5	0	14	10	13
Speech	9	11	11	20	18	17
Speech Correction	a	a	a	3	4	8
Statistics	0	1	0	2	4	4
Teaching of Biol. Sciences and General Science	a	a	a	10	18	11
Teaching of Chemistry	a	a	a	2	1	2
Teaching of English	a	a	a	11	6	6

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a/ Degree not offered.

DEGREES CONFERRED (cont.)

FIELD OF STUDY	Ph.D. 1962-63	Ph.D. 1961-62	Ph.D. 1960-61	A.M. and M.S. 1962-63	A.M. and M.S. 1961-62	A.M. and M.S. 1960-61
Teaching of French	a	a	a	2	0	1
Teaching of Geography	a	a	a	1	0	0
Teaching of German	a	a	a	3	3	0
Teaching of Latin	a	a	a	1	1	0
Teaching of Mathematics	a	a	a	10	11	57
Teaching of Physical Sciences	a	a	a	1	1	3
Teaching of Physics	a	a	a	0	1	2
Teaching of Social Studies	a	a	a	16	11	12
Teaching of Spanish	a	a	a	0	2	0
Teaching of Speech	a	a	a	3	0	1
Theoretical & Applied Mechanics	15	8	10	17	23	14
Veterinary Medical Science	3	4	3	12	6	9
Zoology	6	6	5	19	6	10
Subtotal	396	406	378	1,224	1,111	1,126

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a/ Degree not offered.

DEGREES CONFERRED (cont.)

PROFESSIONAL DEGREES CONFERRED

	1962-63	1961-62	1960-61
Doctor of Business Administration	4	0	0
Doctor of Education in			
Education	26	12	21
Music Education	5	5	6
Doctor of Musical Arts	2	3	4
Doctor of the Science of Law	0	0	2
Advanced Certificate in			
Education	39	27	22
Music Education	1	2	2
Master of Accounting Science	24	13	14
Master of Architecture	10	21	16
Master of Business Administration	6	6	5
Master of Commerce	3	2	8
Master of Comparative Law	2	0	2
Master of Education	351	306	254
Master of Fine Arts in			
Design	2	0	1
Landscape Architecture	3	3	3
Painting and Printmaking	6	8	11
Master of Laws	2	6	0
Master of Music	20	8	22
Master of Social Work	30	28	33
Master of Television	4	0	1
Subtotal	540	450	427
TOTAL DEGREES CONFERRED	2,160	1,967	1,931

TABLE 4

FELLOWS IN RESIDENCE

1962-63

TYPE OF FELLOWSHIP	NUMBER IN RESIDENCE	
	Semester I	Semester II
Supported by University Funds		
University Fellows	131	128
University Teaching Fellows	85	80
Subtotal	216	208
Supported by Industries and Foundations		
Selected by the University	126	122
Not selected by the University, but known to us	20	24
Woodrow Wilson Fellows	8	8
Woodrow Wilson Fellows (Dissertation)	1	1
Subtotal	155	155
Supported by the U. S. Government		
National Science Foundation Cooperative	42	41
National Science Foundation National	43	43
National Science Foundation Mathematics Institute	49	49
National Science Foundation Science Faculty	11	9
National Defense Education Act (Title IV)	50	49
National Defense Education Act (Title VI)	5	6
National Institute of Health	2	1
National Institute of Mental Health	22	22
U. S. Public Health Service	86	92
U. S. Health, Education, and Welfare	27	29
Subtotal	337	341
TOTAL	708	704

TABLE 5

APPLICATIONS FOR FINANCIAL AID

1963-64

	AREAS OF INSTRUCTION										1963-64	1962-63
Preference	0	1	2	3	4	5	6	7	8	9	Total	Total
F	143	365	174	620	221	110	129	71	852	538	3223	3182
T	35	101	30	83	31	20	23	7	236	86	652	664
A	70	150	75	139	85	76	72	72	328	315	1382	1322
W	5	7	6	23	24	3	1	1	8	19	97	120
Not Indicated	-	-	-	-	2	1	-	-	-	-	3	4
1963-64 Total	253	623	285	865	363	210	225	151	1424	958	5357	
1962-63 Total	209	581	256	835	387	200	227	154	1366	1077		5292

CODE

Number	Areas of Instruction
0	Not known
1	Humanities (pure and applied)
2	Arts (pure and applied)
3	Social Sciences (pure)
4	Social Sciences (applied)
5	Education
6	Biological Sciences (pure)
7	Biological Sciences (applied)
8	Physical Sciences (pure)
9	Physical Sciences (applied)

Preferences	
F	Fellowship
T	Teaching Fellowship
A	Assistantship
W	Tuition and Fee Waiver

TABLE 6

FELLOWSHIPS AWARDED, 1963-64

DEPARTMENT	University Fellowships	Supported by the Federal Government					Industrial & Endowed*
		NSF Coop.	NSF Nat'l.	NASA	NDEA IV	USPHS	
Accountancy	3	-	-	-	-	-	-
Advertising	1	-	-	-	-	-	-
Aeronautical & Astronautical Engineering	4	1	-	1	-	-	-
Agricultural Economics	-	-	-	-	-	-	2
Agricultural Engineering	2	-	-	-	-	-	2
Agronomy	3	1	-	-	-	-	2
Animal Science	1	-	-	-	-	-	2
Anthropology	9	-	-	-	3	-	-
Architecture	2	-	-	-	-	-	-
Art	4	-	-	-	-	-	-
Astronomy	4	-	-	-	-	-	-
Botany	2	-	-	-	-	-	-
Business	1	-	-	-	-	-	-
Business Administration	2	-	-	-	3	-	-
Ceramic Engineering	1	-	-	-	-	-	3
Chemistry & Chemical Engineering	50	19	25	1	-	-	29
City Planning & Landscape Architecture	4	-	-	-	-	-	-
Civil Engineering	19	-	1	2	10	1	3
Classics	2	-	-	-	-	-	-
Communications	3	-	-	-	-	-	-
Comparative Literature	2	-	-	-	3	-	-
Dairy Science	1	-	-	-	-	-	-
Dance	1	-	-	-	-	-	-
Economics	9	-	-	-	8	-	1
Education	8	-	-	-	9	-	-
Electrical Engineering	28	1	4	1	-	-	2
English	23	-	-	-	-	-	1
Entomology	1	-	-	-	-	-	-
Finance	2	-	-	-	-	-	2
Food Technology	2	-	-	-	-	-	3
French	4	-	-	-	-	-	-
Geography	3	-	-	-	-	-	-
Geology	7	1	1	-	-	-	2
German	5	-	-	-	-	-	-
History	12	-	-	-	-	-	2

FELLOWSHIPS AWARDED (cont.)

DEPARTMENT	University Fellowships	Supported by the Federal Government					Industrial & Endowed*
		NSF Coop.	NSF Nat'l.	NASA	NDEA IV	USPHS	
Home Economics	1	-	-	-	-	-	1
Horticulture	-	-	-	-	-	-	2
Labor & Industrial Relations	2	-	-	-	-	-	-
Law	3	-	-	-	-	-	-
Library Science	1	-	-	-	-	-	2
Linguistics	2	-	-	-	11	-	1
Marketing	1	-	-	-	-	-	-
Mathematics	21	10	3	2	-	-	1
Mechanical Engineering	9	3	-	1	-	-	5
Mining, Metallurgy, & Petroleum Engineering	-	-	-	-	-	-	3
Microbiology	-	-	-	-	-	7	-
Music	13	-	-	-	-	-	1
Nuclear Engineering	5	1	-	1	2	-	-
Philosophy	4	-	-	-	-	-	-
Physical Education	1	-	-	-	-	-	-
Physics	27	16	7	2	-	-	8
Physiology & Biophysics	3	-	-	1	-	4	-
Political Science	9	-	-	-	-	-	8
Psychology	17	1	2	-	8	13	-
Russian	3	-	-	-	-	-	-
Social Sciences	1	-	-	-	-	-	-
Social Work	2	-	-	-	-	-	-
Sociology	4	-	-	-	-	-	-
Spanish, Italian, & Portuguese	10	-	-	-	3	-	-
Speech & Theatre	3	-	-	-	3	-	-
Theoretical & Applied Mechanics	6	1	1	-	-	-	-
Veterinary Medical Science	-	-	-	-	-	7	-
Zoology	4	-	2	-	-	-	-
TOTAL	377	55	46	12	63	30	88*

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*Information concerning the renewal of industrial fellowships, and the establishment of new ones, is received throughout the spring and summer months. The numbers cited in this column were correct at the time this report was prepared (June 25), but they may be increased substantially by the end of August.

TABLE 7

RATES OF ACCEPTANCE FOR UNIVERSITY FELLOWSHIPS

1961-62 -- 1963-64

AREAS OF INSTRUCTION	1961-62 Old a/	 New b/	 TOTAL	1962-63 Old a/	 New b/	 TOTAL	1963-64 Old a/	 New b/	 TOTAL
	Percentage			Percentage			Percentage		
All Areas	95.0	36.1	53.9	93.1	42.2	57.6	84.9	44.6	57.3
Pure Physical Sciences	97.4	20.0	47.7	94.7	35.9	57.8	82.4	21.5	42.4
Pure Biological Sciences	66.7	40.0	50.0	100.0	14.3	57.1	100.0	42.9	60.0
Applied Physical Sciences	100.0	49.2	60.7	88.9	36.9	49.3	78.6	38.9	52.4
Applied Biological Sciences	85.7	0	60.0	100.0	75.0	88.8	66.7	71.4	70.0
Humanities	94.1	36.4	52.4	100.0	39.5	55.2	87.5	80.6	82.7
Fine & Applied Arts	93.3	92.3	92.8	87.5	85.0	85.7	100.0	54.2	75.0
Education	100.0	54.5	58.3	66.7	33.3	50.0	100.0	100.0	100.0
Pure Social Sciences	93.3	23.1	38.8	91.7	38.1	50.0	82.3	42.9	54.2
Applied Social Sciences	100.0	41.2	54.5	100.0	52.0	62.5	100.0	38.5	50.0

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a/"Old" students are those previously registered in the Graduate College of the University of Illinois.

b/"New" students are those not previously registered in the Graduate College of the University of Illinois.

TABLE 8

NSF COOPERATIVE FELLOWSHIPS AWARDED
TO
STUDENTS AT THIRTEEN UNIVERSITIES

1960-61 -- 1963-64

UNIVERSITY	1960-61	1961-62	1962-63	1963-64	TOTAL
Illinois	48	32	48	55	183
Indiana	8	13	9	11	41
Iowa	14	9	16	10	49
Michigan	42	34	41	34	151
Michigan State	20	17	21	17	75
Minnesota	28	29	29	45	131
Northwestern	13	8	12	10	43
Ohio State	27	48	31	27	133
Purdue	34	36	34	28	132
Wisconsin	42	46	38	37	163
California (Berkeley)	43	40	39	60	182
Chicago	21	21	21	19	82
Harvard-Radcliffe	25	27	32	20	104

TABLE 9

NSF SUMMER FELLOWSHIPS FOR TEACHING ASSISTANTS AWARDED TO STUDENTS AT THIRTEEN UNIVERSITIES

1960-61 -- 1963-64

UNIVERSITY	1960-61	1961-62	1962-63	1963-64	TOTAL
Illinois	24	27	42	27	120
Indiana	5	6	4	7	22
Iowa	7	7	10	11	35
Michigan	21	24	23	18	86
Michigan State	11	12	11	15	49
Minnesota	14	19	38	38	109
Northwestern	6	3	18	11	38
Ohio State	15	15	21	9	60
Purdue	17	20	30	12	79
Wisconsin	21	24	28	32	105
California (Berkeley)	19	9	17	18	63
Chicago	10	11	13	6	40
Harvard-Radcliffe	6	14	17	12	49

TABLE 10

GRADUATE SCHOOLS SELECTED BY NSF PREDOCTORAL FELLOWS

1960-61 -- 1963-64

UNIVERSITY	1960-61	1961-62	1962-63	1963-64	TOTAL
Illinois	41	41	47	46	175
Indiana	7	13	14	9	43
Iowa	4	7	15	10	36
Michigan	34	34	39	47	154
Michigan State	1	7	5	6	19
Minnesota	12	14	23	20	69
Northwestern	12	13	17	21	63
Ohio State	8	12	14	10	44
Purdue	10	22	21	21	74
Wisconsin	40	51	55	63	209
California (Berkeley)	107	161	167	198	633
Chicago	40	46	58	72	216
Harvard-Radcliffe	182	222	233	225	862

TABLE 11

GRADUATE SCHOOLS SELECTED BY WOODROW WILSON FELLOWS

1960-61 -- 1963-64

UNIVERSITY	1960-61	1961-62	1962-63	1963-64	TOTAL
Illinois	16	15	9	13	53
Indiana	17	33	22	25	97
Iowa	13	8	1	8	30
Michigan	33	32	23	42	130
Michigan State	2	1	0	1	4
Minnesota	19	13	4	14	50
Northwestern	17	20	9	13	59
Ohio State	5	0	3	1	9
Purdue	1	1	0	1	3
Wisconsin	41	54	36	36	167
California (Berkeley)	79	125	85	118	407
Chicago	50	58	32	62	202
Harvard-Radcliffe	115	292	226	266	899

TABLE 12

FELLOWSHIP SUBVENTION GRANTS TO DEPARTMENTS

1962-63

Accountancy	$ 2,000
Aeronautical & Astronautical Engineering	1,250
Agricultural Economics	375
Agricultural Engineering	2,000
Agronomy	1,500
Anthropology	3,500
Architecture	1,000
Art	2,000
Astronomy	500
Business	1,500
Business Administration	2,250
Chemistry & Chemical Engineering	18,250
City Planning & Landscape Architecture	1,000
Civil Engineering	10,250
Classics	500
Communications	500
Dairy Science	500
Economics	2,000
Education	10,000
Electrical Engineering	3,000
English	5,750
Entomology	1,500
Finance	1,250
Food Technology	1,250
French	2,250
Geography	1,500
Geology	3,250
German	2,000
History	4,750
Home Economics	500
Horticulture	500
Labor & Industrial Relations	1,500
Law	1,000
Library Science	500
Life Sciences	500
Linguistics	5,000
Marketing	500
Mathematics	11,500
Mechanical & Industrial Engineering	3,545
Music	6,750
Nuclear Engineering	1,500
Philosophy	1,000
Physical Education for Men	500

FELLOWSHIP SUBVENTION (cont.)

Physics	$ 13,750
Physiology & Biophysics	1,250
Political Science	4,250
Psychology	6,500
Radio & Television	500
Social Work	500
Sociology	500
Spanish, Italian, & Portuguese	3,750
Speech & Theatre	4,000
Theoretical & Applied Mechanics	4,000
Zoology	3,750
TOTAL	$164,920

SOURCE OF FUNDS FOR FELLOWSHIP SUBVENTION GRANTS TO DEPARTMENTS

University Research Board	$100,000
NDEA	33,750
NSF (Coop)	9,170
USPHS (Predoctoral)	500
NSF (National)	21,500
TOTAL	$164,920

TABLE 13

FACULTY SUMMER FELLOWS, 1958 -- 1963

	Summer Sessions						
DEPARTMENT	1958	1959	1960	1961	1962	1963	TOTAL
Accountancy	-	-	-	1	-	-	1
Anthropology	-	-	-	-	1	1	2
Architecture	-	1	-	-	1	-	2
Art	5	1	4	4	4	6	24
Astronomy	-	-	-	-	-	1	1
Botany	-	-	1	1	1	1	4
Chemistry & Chemical Engineering	2	2	2	-	2	1	9
City Planning & Landscape Architecture	-	-	-	1	-	-	1
Civil Engineering	-	-	-	2	2	-	4
Classics	1	-	-	-	2	-	3
Dance	-	-	-	-	-	1	1
Division of General Studies	-	-	-	1	-	2	3
Economics	-	-	-	-	3	4	7
English	7	4	5	4	4	7	31
Entomology	-	-	1	2	-	-	3
French	2	-	-	1	2	1	6
Geography	-	-	-	-	1	-	1
Geology	-	1	1	1	-	2	5
German	-	-	1	-	-	1	2
Government & Public Affairs	-	-	1	-	-	-	1
History	1	1	1	2	2	-	7
Journalism	-	-	-	-	-	1	1
Management	-	-	-	-	1	-	1
Marketing	1	-	-	-	-	-	1
Mathematics	2	1	1	-	-	2	6
Music	2	1	2	2	1	1	9
Philosophy	-	1	1	1	1	2	6
Physiology & Biophysics	-	1	-	-	-	-	1
Political Science	-	1	2	1	1	1	6
Psychology	-	1	1	-	1	1	4
Russian	-	-	-	1	1	1	3
Sociology	-	2	1	1	1	-	5
Spanish, Italian, & Portuguese	1	2	-	-	-	1	4
Zoology	-	1	2	1	1	-	5
Chicago Undergraduate Division	2	3	1	4	5	5	20
TOTAL	26	24	28	31	38	43	190

TABLE 14

UNIVERSITY RESEARCH BOARD APPROPRIATIONS

1959-60 -- 1962-63

	July 1, 1959 - June 30, 1960	July 1, 1960 - June 30, 1961	July 1, 1961 - June 30, 1962	July 1, 1962 - June 30, 1963
For General University Purposes	$ 190,944	$ 285,053	$ 338,911	$ 645,859
For the Humanities and the Arts, Urbana	49,134	48,706	95,259	73,364
For the Social Sciences, Urbana	75,862	70,984	106,494	114,332
For Education, Urbana	12,771	5,600	40,582	4,760
For the Biological Sciences, Urbana	133,881	146,984	185,395	136,996
For the Physical Sciences, Urbana	179,382	146,301	245,625	219,700
For the Chicago Undergraduate Division	2,186	8,094	9,860	15,882
TOTAL	$ 644,160	$ 711,722	$1,022,126	$1,210,893
I. FOR GENERAL UNIVERSITY PURPOSES				
Administrative and General Services	$ 54,550	$ 30,000	$ 23,140	$ 31,623
Center for Advanced Study	25,000		48,074	
Contributions on behalf of the University	550	500	500	500
Fellowships - Graduate Students	27,500	39,850	111,250	104,500
- Faculty	25,200	27,900	34,200	39,600
- Subvention				100,000
Provision of Special Facilities for Inter-departmental Use - Digital Computer Laboratory	15,587	148,470	11,790	300,000
Library	42,557	37,755	84,957	69,113
University Press		578	25,000	523
Subtotal	$ 190,944	$ 285,053	$ 338,911	$ 645,859

RESEARCH BOARD APPROPRIATIONS (cont.)

	July 1, 1959 - June 30, 1960	July 1, 1960 - June 30, 1961	July 1, 1961 - June 30, 1962	July 1, 1962 - June 30, 1963
II. FOR THE HUMANITIES AND THE ARTS, URBANA				
Architecture	$	$ 1,900	$	$
Art	2,500	285	6,050	5,595
Classics	1,300	2,650	3,120	5,650
City Planning and Community Development		825	7,843	2,390
English	7,955	6,692	4,006	10,904
French	1,312	3,228	1,450	3,500
German	595	850	1,170	1,310
Journal of English & Germanic Philology	2,686	400	4,000	400
Linguistics			5,850	
Music	18,706	16,267	25,023	14,323
Philosophy	1,400	1,900	5,451	1,500
Russian				681
Spanish, Italian, & Portuguese	6,950	6,956	8,371	15,423
Speech & Theatre	5,730	6,753	22,925	11,688
Subtotal	$ 49,134	$ 48,706	$ 95,259	$ 73,364

	July 1, 1959 - June 30, 1960	July 1, 1960 - June 30, 1961	July 1, 1961 - June 30, 1962	July 1, 1962 - June 30, 1963
III. FOR THE SOCIAL SCIENCES, URBANA				
Accountancy	$ 5,000	$ 3,523	$ 1,112	$ 1,250
Anthropology	2,750	5,675	7,631	10,848
Bureau of Economic & Business Research		4,000	2,000	
Communications			8,048	
Economics	7,215	2,980	8,323	6,424
Finance	1,150	1,161	2,211	445
Geography	1,000	4,170	4,002	5,500
History	27,256	23,280	33,666	40,924
Illinois Historical Survey	1,370	1,810	423	
Institute of Government & Public Affairs	700		750	
Institute of Labor & Industrial Relations	2,200	1,240	4,323	525
Law	450	700	4,250	10,728
Management				142
Marketing	450	500	1,032	
Political Science	15,936	6,645	5,300	8,748
Psychology	9,861	11,850	18,536	17,161
Sociology	524	3,450	4,887	11,637
Subtotal	$ 75,862	$ 70,984	$ 106,494	$ 114,332

RESEARCH BOARD APPROPRIATIONS (cont.)

	July 1, 1959 - June 30, 1960	July 1, 1960 - June 30, 1961	July 1, 1961 - June 30, 1962	July 1, 1962 - June 30, 1963
IV. EDUCATION, URBANA				
Education	$ 11,789	$ 3,100	$ 40,132	$ 3,500
Physical Education	982	2,500	450	1,260
Subtotal	$ 12,771	$ 5,600	$ 40,582	$ 4,760
V. FOR THE BIOLOGICAL SCIENCES, URBANA				
Agronomy	$ 8,800	$ 8,065	$ 7,084	$ 13,100
Animal Science	5,430	3,000	15,444	
Botany	43,281	26,144	18,815	31,596
Dairy Science		6,975	7,000	
Entomology	13,070	8,112	5,693	1,337
Food Technology	11,161	9,076	9,826	1,850
Home Economics	1,750	1,900	3,500	
Horticulture		3,000		
Life Sciences	911	2,234	3,080	1,495
Microbiology	28,190	25,915	33,878	23,500
Physiology	7,758	2,470	16,805	17,890
Plant Pathology		11,827	5,500	3,500
Veterinary Medicine	2,936	3,647	7,501	3,692
Zoology	10,594	34,619	51,269	39,036
Subtotal	$ 133,881	$ 146,984	$ 185,395	$ 136,996

RESEARCH BOARD APPROPRIATIONS (cont.)

	July 1, 1959 - June 30, 1960	July 1, 1960 - June 30, 1961	July 1, 1961 - June 30, 1962	July 1, 1962 - June 30, 1963
VI. FOR THE PHYSICAL SCIENCES, URBANA				
Aeronautical & Astronautical Engineering	$ 10,070	$	$	$
Agricultural Engineering		7,000		3,900
Astronomy		4,100		25,050
Ceramic Engineering		6,000	4,000	
Chemistry & Chemical Engineering	50,460	45,634	42,820	111,530
Civil Engineering	11,310	1,250	26,350	20,035
Electrical Engineering		33,800	98,722	4,600
Geology	11,358	3,817	4,994	13,749
Mathematics	5,500		361	
Mechanical & Industrial Engineering	5,000		4,340	
Mining, Metallurgy, & Petroleum Engineering	16,840	11,845	18,224	4,210
Nuclear Engineering	27,950			8,050
Physics	40,894	32,855	39,734	16,000
Theoretical & Applied Mechanics			6,080	12,576
Subtotal	$ 179,382	$ 146,301	$ 245,625	$ 219,700

RESEARCH BOARD APPROPRIATIONS (cont.)

	July 1, 1959 - June 30, 1960	July 1, 1960 - June 30, 1961	July 1, 1961 - June 30, 1962	July 1, 1962 - June 30, 1963
VII. FOR THE CHICAGO UNDERGRADUATE DIVISION				
Biological Sciences	$ 1,000	$ 3,715	$ 3,818	$ 1,998
Library		2,504		1,000
Physical Sciences		1,875		6,481
Social Sciences	1,186		2,795	3,686
Humanities			3,247	2,717
Subtotal	$ 2,186	$ 8,094	$ 9,860	$ 15,882

TABLE 15

APPLICATIONS FOR RESEARCH GRANTS AND CONTRACTS SENT TO AGENCIES OUTSIDE THE UNIVERSITY

Data on Applications Transmitted from July 1, 1962 through June 30, 1963

	APPLICATIONS SUBMITTED		APPLICATIONS ACTED ON (as of July 1, 1963)					APPLICATIONS PENDING (as of July 1, 1963)	
			Supported in whole or in part			Denied			
Area	No.	Amount Requested	No.	Amount Requested	Amount Received	No.	Amount Requested	No.	Amount Requested
Administration	22	$ 991,989	9	$ 268,966	$ 263,977	2	$ 18,611	11	$ 704,412
Humanities	9	279,563	4	131,447	169,400	1	7,622	4	140,494
Arts	5	34,450	3	22,450	22,450			2	12,000
Pure Social Sciences	77	4,068,691	22	955,505	766,149	9	1,662,139	46	1,451,047
Applied Social Sciences	26	1,303,415	14	331,781	457,393			12	971,634
Education	46	4,138,275	18	569,210	648,503	7	870,850	21	2,698,215
Pure Biological Sciences	110	5,890,756	38	1,472,467	926,409	7	171,968	65	4,246,321
Applied Biological Sciences	187	4,097,581	93	940,466	754,532	10	247,755	84	2,909,360
Pure Physical Sciences	208	22,001,290	43	1,816,016	1,583,006	11	1,720,957	154	18,464,317
Applied Physical Sciences	293	18,269,534	106	6,369,493	5,280,015	17	917,957	170	10,982,084
TOTAL	983	$61,075,544	350	$12,877,801	$10,871,834	64	$ 5,617,859	569	$42,579,884

APPLICATIONS FOR RESEARCH GRANTS AND CONTRACTS SENT TO AGENCIES OUTSIDE THE UNIVERSITY

Data on Applications Transmitted from July 1, 1961 through June 30, 1962

	APPLICATIONS SUBMITTED		APPLICATIONS ACTED ON (as of July 1, 1963)					APPLICATIONS PENDING (as of July 1, 1963)	
			Supported in whole or in part			Denied			
Area	No.	Amount Requested	No.	Amount Requested	Amount Received	No.	Amount Requested	No.	Amount Requested
Administration	8	$ 723,684	4	$ 522,550	$ 522,550	2	$ 168,970	2	$ 32,164
Humanities	4	504,970	2	58,013	58,358	2	446,957		
Arts	5	173,595	2	11,250	11,250	3	162,345		
Pure Social Sciences	58	2,994,569	46	1,497,225	1,069,023	8	1,453,355	4	43,989
Applied Social Sciences	24	599,372	18	513,969	481,386	3	34,687	3	50,716
Education	27	1,876,165	11	914,867	693,776	3	276,979	13	684,319
Pure Biological Sciences	77	2,512,466	62	2,061,956	1,722,673	7	304,774	8	145,736
Applied Biological Sciences	167	6,879,329	121	1,798,339	1,546,933	23	1,044,459	23	4,036,531
Pure Physical Sciences	170	32,264,450	121	19,105,761	10,794,445	29	3,884,829	20	9,273,860
Applied Physical Sciences	204	17,084,189	136	7,841,756	7,034,432	47	2,533,307	21	6,709,126
TOTAL	744	$65,612,789	523	$34,325,686	$23,934,826	127	$10,310,662	94	$20,976,441

TABLE 16

INSTITUTIONAL GRANT FUNDS, 1962-63

A. National Science Foundation Institutional Grant		
Received and assigned entirely to Center for Advanced Study		$ 50,000
B. Grants Provided in Conjunction with Fellowships		
Receipts:		
NSF Cooperative Fellows	$ 42,000	
NSF Science Faculty Fellow	728	
NSF National Fellows	21,500	
NDEA Fellows	62,500	
Office of Education Fellows	10,000	
USPHS Fellows	8,750	
Carry-over from 1961-62	882	
TOTAL		$146,360
Allocations:		
Chemistry & Chemical Engineering	$ 20,000	
Plant Pathology	4,550	
Ultracentrifuge Laboratory	7,930	
Mathematics	200	
Geology	400	
Radiocarbon Laboratory	4,000	
Entomology	1,000	
Linguistics	5,885	
Education	14,831	
Economics	2,000	
Bureau of Community Planning	940	
Physiology & Biophysics	1,110	
Communications	2,170	
Graduate College		
Graduate Record Examinations	7,256	
Salaries	3,300	
Special Travel	2,362	
Administrative Research & Miscellaneous	3,506	
Fellowship Subvention (See Table 12 for departmental allocations)		
NDEA Fellowships	33,750	
NSF Cooperative & Science Faculty Fellowships	9,170	
NSF National Fellowships	21,500	
USPHS Predoctoral Fellowships	500	
TOTAL		$146,360

TABLE 17

UNIVERSITY PRESS PUBLICATIONS 1/

May 1, 1962 -- May 1, 1963

Illinois Studies Series 2/

Books Published

Goldman: The Cubeo; Indians of the northwest Amazon (A).
Lehman: Structure of Chin society and culture (A).
Leim: Comparative osteology . . . of Anabantoidei (BM).
Neilson: Shelby Cullom, Prairie state Republican (SS).
Paolillo: Developmental anatomy of Isoetes (BM).
Robins: If this be heresy (LL).
Scott: The agrarian movement in Illinois (SS).
Spiegel: The Illinois court of claims (SS).

Books in Process

McShane: Foreign policy of the Attalids of Pergamum (SS).
Smith: A humanist's "Trew Imitation" (LL).

Non-Serial Publications

Books Published

Campbell: The Farm Bureau and the New Deal.
Carlston: Law and organization in world society.
Contemporary American painting and sculpture, 1963.
Cross: Arches . . . columns and conduits.
Culbertson: The minds of robots.
Dusenberry: The Mexican mesta.
Ferguson: Jonathan Swift and Ireland.
High school mathematics--Unit 9.
Menger: Problems of economics and sociology.
Nalbandov (ed): Advances in neuroendocrinology.
Osgood and Miron: Approaches to the study of aphasia.
Ranney (ed): Essays on the behavioral study of politics.

1/ The titles shown in the Illinois Studies series were financed partly from funds of the Graduate College and partly from those of the Press Revolving Fund. The non-serial publications were financed from the Scholarly Publications Account in the Graduate College and the Revolving Fund of the University Press. Grants from the Ford Foundation also aided in financing the scholarly publications program.

2/ (A) Monographs in Anthropology.
(BM) Biological Monographs.
(SS) Studies in the Social Sciences.
(LL) Studies in Language and Literature.

UNIVERSITY PRESS PUBLICATIONS (cont.)

Shattuck: William Charles Macready's King John.
Shelford: The ecology of North America.
Shoemaker (ed): Los prologos de Galdós.

Books in Process

Arai (ed): Key to the trematodes of man.
Bates: The origins of Teapot Dome.
Caton (ed): The philosophy of ordinary language.
Gotshalk: Patterns of good and evil.
Gusfield: Symbolic crusade.
Holley: Charles Evans, American bibliographer.
McGregor: Southwestern archaeology.
Moles: Information theory and esthetic perception.

Illini Books (Paperback Series)

Books Published

IB-1 Brown: Grierson's raid.
IB-2 Von Braun: The Mars project.
IB-3 MacKaye: The new exploration.
IB-4 Herrick: Tragicomedy.
IB-5 Lattimore: Themes in Greek and Latin epitaphs.
IB-6 Ranney: The doctrine of responsible party government.
IB-7 Osgood: An alternative to war or surrender (original publication).

Books in Process

Allen: The legend of Noah.
Blum: Reference books in the mass media.
Lewis: Life in a Mexican village.
Shannon and Weaver: Mathematical theory of communication.
Znaniecki: Cultural sciences.

TABLE 18

ENROLLMENT AND DEGREES CONFERRED
CHICAGO MEDICAL CENTER
1962-63

	Quarterly Enrollment				Degrees Conferred	
DEPARTMENT	Summer	Fall	Winter	Spring	M.S.	Ph.D.
Medical Sciences						
Anatomy	10	20	19	19	5	3
Biochemistry	36	43	43	40	4	4
Microbiology	11	17	17	16	1	1
Pathology	2	4	3	4	-	-
Pharmacology	12	16	15	14	2	-
Physiology	19	25	25	22	1	2
Surgery	2	9	6	8	6	-
Subtotal	92	134	128	123	19	10
Dental Fields						
Histology (Dental)	7	7	6	10	3	-
Oral Pathology	-	1	3	1	1	-
Oral Surgery	4	7	5	6	2	-
Orthodontics	7	9	9	10	9	-
Pedodontics	1	1	2	3	-	-
Subtotal	19	25	25	30	15	-
Pharmacy Fields						
Chemistry (Pharm.)	17	26	23	21	1	7
Pharmacognosy	-	1	1	1	-	-
Pharmacy	4	12	11	12	2	-
Subtotal	21	39	35	34	3	7
TOTAL	132	198	188	187	37	17

TABLE 19

APPROPRIATIONS BY CHICAGO MEDICAL CENTER SUBCOMMITTEE OF THE UNIVERSITY RESEARCH BOARD

1962-63

DEPARTMENT		APPROPRIATIONS
I. Medical Sciences		
Anatomy		$ 14,005
Biological Chemistry		21,940
Medical Research Laboratory		3,604
Medicine		9,575
Microbiology		13,529
Otolaryngology		1,960
Pathology		3,612
Pediatrics		995
Pharmacology		3,893
Physiology		18,341
Preventive Medicine		2,500
Psychiatry		909
Radiology		8,407
	Subtotal	$103,270
II. Dental Sciences		
Oral Surgery		$ 6,165
III. Pharmacy		
Chemistry (Pharmaceutical)		$ 15,433
Mathematics		980
Pharmacognosy		4,989
Pharmacy		8,025
Physics		900
Zoology		1,981
	Subtotal	$ 32,308
IV. Other		
Graduate College Fellowship Committee		$ 3,600
University Microscope Rental Pool		3,500
	Subtotal	$ 7,100
	TOTAL	$148,843

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